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Analysis of the distribution of moisture imbibition velocity in heavy-textured soils

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Abstract

A new method is suggested for the statistical processing of data on moisture imbibition into the soil (as the first stage of water infiltration) using the example of a leached medium-humus heavy-loamy chernozem of medium thickness with the conversion of the initial data into a lognormal distribution. The obtained statistical parameters are less variable than the initial values of the imbibition velocity measured in the field. The use of imbibition velocity logarithms revealed the maximum of this index at a depth of 43 cm confined to the AB horizon. In general, the imbibition velocity in different horizons is closely related to the heterogeneities of various origins caused by the conditions of the horizon formation. © Pleiades Publishing, Ltd. 2008.

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